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REMARKS**I. INTRODUCTION**

Claims 13, and 16-23 are pending in this application. No new matter has been added. In view of the following remarks, it is respectfully submitted that all of the pending claims are allowable.

II. THE REJECTIONS UNDER 35 U.S.C. § 101 SHOULD BE WITHDRAWN

Claims 13, 16, 17 and 19-21 stand rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter. The Examiner states claims 13, 16, 17 and 19-21 recite signals "consisting of mere arrangement of non-functional data that does not exhibit any functional interrelationship with the way in which the computing processes are performed." (4/21/06 *Office Action*, p. 3). The Examiner also states that "signal claims are considered non-statutory under the present Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility published 26 October 2005." (*Id.*).

Initially, the applicants will address the Examiner's contention that the recitations of the rejected claims recite non-functional data. Specifically, Applicants contend that each of the rejected claims recite a specific signal structure that is statutory under 35 U.S.C. § 101. For example, claim 13 recites "[a] data signal comprising a plurality of data items, comprising: a field indicating the number of data items; the plurality of data items, each item including an identifier; characterized in that the plurality of identifiers form an ordered sequence, and in that the field indicating the number of data items comprises a first and a second subfield, said subfields representing the range of said sequence of identifiers."

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Thus, claim 13 is presented in the typical format associated with structural signal claims, *i.e.*, an arrangement of data segments and content of data segments that is manufactured to be propagated from one location to another before being received and processed. The Examiner is directed to review U.S. Patents 6,052,150, 5,991,330 and 5,500,739, each of which includes allowed signal claims that are in the same format and have the same structure as the rejected claims in the present application. Applicants are also aware of multiple additional issued claims in the same format. If the Examiner so desires, Applicants would be happy to provide the Examiner with a listing of issued patents including such claims. The reason the claims issued is simple. The claimed subject matter in those claims and the rejected claims of the present application have a defined structure and are therefore statutory subject matter.

The Examiner contends that the rejected claims do “not constitute a statutory manufacture, process, machine or composition of matter.” (4/21/06 *Office Action*, p. 3). Applicants respectfully disagree. The claimed signal does not occur naturally. It is manufactured for the specific purpose of being transmitted from, for example, a transmitter to a receiver as described in the specification. It exists in a tangible medium, *e.g.*, the transmitter and the receiver. The claimed signal may exist for only a short period of time, but the transitory nature of the signal is irrelevant to the analysis.

A signal claim directed to a practical application of electromagnetic energy is statutory regardless of its transitory nature.

MPEP §2106.IV.B.1(c) (citing *O'Reilly v. Morse*, 56 U.S. 62, 112-114).

Thus, applicants respectfully submit that the claimed signal is a manufacture. It is

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manufactured in accordance with the recitations of the claim to include specific structural components (data segments and content of data segments) to be propagated from one location to another. The claimed structural components are clear from the plain meaning of the claim language. Each rejected claim sets forth the specific structural components in the claimed signal. Accordingly, applicants respectfully submit that the signal of claim 13 is statutory subject matter under 35 U.S.C. § 101.

While Applicants believe that the claimed signals are structural, the Applicants respectfully submit that, at worst, each of the rejected claims recite a signal having *functional* descriptive material as that term is defined in the Manual of Patenting Examining Procedures ("MPEP"). *MPEP 2106 IV.B.1(b)* states that functional descriptive material "consists of data structures and computer programs which impart functionality when employed as a computer component." When functional descriptive material is "recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized." The *MPEP* goes on to state that the claimed invention as a whole should be considered to determine if a functional interrelationship exists. Applicants respectfully submit that the Examiner has not performed the requisite considerations to determine if the claimed subject matter is functional or non-functional. The *MPEP* also provides guidelines for reviewing Patentable Subject Matter as a whole, including: i) identify and understand any practical application asserted for the invention; ii) review the detailed disclosure and specific embodiments of the invention to determine what the applicant has invented; and iii) review the claims. (*MPEP* § 2106 II). Applicants respectfully submit that by reviewing the claimed subject

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matter in accordance with the guidelines provided by the MPEP, the claimed subject matter is statutory. Applicants also note that the guidelines provided above are also consistent with the Interim Guidelines cited by the Examiner.

With respect to the practical application of the claimed signal, the specification describes that the practical application of the signal is useful for transmission and reception of electronic program guide data items from a transmitter to television receivers and/or video recorders. (*See, Specification*, p. 3, lines 28-30). The specification also provides a tangible result that is realized based on the use of the claimed signal. (*Id.* at p. 3, lines 3-10). Moreover, the specification provides detailed examples of the data signal including the field, the plurality of data items and the plurality of identifiers. (*See, Id.* at p. 4, line 20 – p. 5, line 13). The specification describes how this signal interacts with a transmitter. (*Id.* at p. 5, line 14 – p. 6, line 2). The specification then goes on to describe how this signal interacts with a receiver. (*Id.* at p. 6, lines 3-26). Thus, the specification makes it clear that the claimed signal becomes structurally and functionally interrelated to the transmitter and/or receiver and the use of the claimed signal permits the function of the descriptive material to be realized.

A review of the claim also shows that the claimed subject matter is directed at a useful, tangible result being realized by the claimed signal. For example, claim 13 recites “the plurality of identifiers form an ordered sequence, and in that the field indicating the number of data items comprises a first and a second subfield, said subfields representing the range of said sequence of identifiers.” The purpose of this recitation of the claimed signal is so that the devices (*e.g.*, the transmitter and/or receiver) may implement the functionality claimed in claim

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13. That is, the transmitter and/or receiver will operate in the manner described by the specification, because of the practical application of the claimed signal.

Thus, Applicants respectfully submit that when the claimed invention, as a whole, is considered, a functional interrelationship exists with the transmitter and/or receiver described in the specification. The claimed signal does not merely recite physical characteristics of a signal such as frequency, voltage, etc. Rather, the claimed signal includes a functional recitation of components of the signal that interact with the transmitter and/or receiver to produce a tangible result. This is clear from both the claim language itself and from the description of the operation of a transmitter and receiver in the specification. Thus, according to the guidelines presented by the MPEP, the claimed subject matter is functional and therefore, statutory subject matter.

The Applicants will address the Examiner's contention with respect to the Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility (the "Interim Guidelines"). Initially, Applicants respectfully submit that the use of the Interim Guidelines as a basis of rejecting signal claims is improper. As described in detail above, the rejected claims include functional descriptive material. Thus, the Examiner appears to be relying on the following statement from the Interim Guidelines:

Moreover, *it does not appear* that a claim reciting a signal encoded with functional descriptive material falls within any of the categories of patentable subject matter set forth in § 101.

Interim Guidelines, p. 55 (emphasis added).

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However, Applicants further point the Examiner to other statements in the same section of the Interim Guidelines. Specifically,

These interim guidelines *propose* that such signal claims are ineligible for patent protection because they do not fall within any of the four statutory classes of §101. Public comment is sought for further evaluation of this question.

Id. at p. 57 (emphasis added).

On the other hand, from a technological standpoint, *a signal encoded with functional descriptive material is similar to a computer-readable memory encoded with functional descriptive material*, in that they both create a functional interrelationship with a computer. In other words, a computer is able to execute the encoded functions, regardless of whether the format is a disk or a signal.

Id. (emphasis added).

Thus, the Interim Guidelines recognize the inherent inconsistency in a rule that would allow functional descriptive material to be statutory in one situation and non-statutory in a second situation. Thus, the Interim Guidelines do not state that a signal claim *is* non-statutory. The Interim Guidelines state that it is *proposed* that signal claims are non-statutory and asks for public comments. It is improper for the Examiner to base a rejection on a rule that is not even in effect and may never come into effect. This proposed rule cannot even be considered a guideline because it does not offer any guidance. It does not provide a definitive statement that signals are non-statutory. It asks a question of whether signals should be non-statutory and invites public comment on the question. Applicants are not aware of any rule change that makes the Interim Guidelines binding. In fact, the Interim Guidelines specifically state:

These Guidelines do not constitute substantive rulemaking and

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hence do not have the force and effect of law. These Guidelines have been designed to assist USPTO personnel in analyzing claimed subject matter for compliance with substantive law. Rejections will be based upon the substantive law and it is these rejections which are appealable.

Id. at p. 1.

Thus, applicants respectfully submit that it is improper for the Examiner to rely on the Interim Guidelines for making a rejection. The Examiner should be relying on the substantive law. The MPEP succinctly states the current state of the substantive law:

A signal claim directed to a practical application of electromagnetic energy is statutory regardless of its transitory nature.

MPEP §2106.IV.B.1(c) (citing *O'Reilly v. Morse*, 56 U.S. 62, 112-114).

The Examiner is further directed to *In re Breslow*, 616 F.2d 516 (CCPA 1980) and *Ex Parte Rice*, BPAI Appeal No. 2002-1554 (Application No. 08/003,996) that further elucidate the current state of the substantive law with respect to signal claims.

As described in detail above, the claimed signal of claim 13, is either structural or directed to a practical application of the signal. Thus, according to the MPEP and the current state of the substantive law, the claimed subject matter is statutory. The Interim Guidelines do not and cannot overturn over one hundred years of jurisprudence of the Supreme Court.

Furthermore, as described above, the Applicants respectfully submit that the Interim Guidelines statement that a manufacture as used in § 101 requires a tangible physical article or object is incorrect. (*See Interim Guidelines*, p. 57) The basis for this conclusion is that the other two product classes (machine and composition of matter) require physical matter. *Id.*

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The Applicants are not aware of any substantive case law that makes this logical leap and, as described above, this flies in the face of the established case law that signals are acceptable statutory subject matter.

Moreover, as described in detail above, the claimed signals are manufactured for the specific purpose of being transmitted from one location (or device) to another location (or device). They are manufactured to include specific data as recited in the claims and for the transmitting and receiving device to operate in a specified manner upon the signals. Thus, Applicants respectfully submit that contrary to the conclusory statements in the Interim Guidelines, the claimed signal is clearly a manufacture as that term is used in § 101.

Accordingly for at least the reasons described above, the 35 U.S.C. §101 rejection of claim 13 should be withdrawn.

Claim 16 recites "[a]n electromagnetic signal for use in a receiving device and embodying a plurality of data items, the data items comprising: a field indicating the number of data items; the plurality of data items, each item including an identifier; wherein the plurality of identifiers form an ordered sequence, the field indicating the number of data items comprises a first and a second subfield, said subfields represent the range of said sequence of identifiers."

Thus, claim 16 specifically recites the use of the claimed signal in a receiving device, *e.g.*, the receiver described in the specification. Thus, for the same reasons described above with respect to claim 13, the 35 U.S.C. §101 rejection of claim 16 should be withdrawn. Because claims 17 and 19-21 depend from, and include the limitations of claim 16, these claims are also allowable.

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**III. THE EXAMINER SHOULD NOT ISSUE AN OBJECTION TO THE
ALLOWABLE CLAIMS**

The Examiner indicated that should claims 16,22 be found allowable, claims 13 and 18 will be objected to under 37 CFR 1.75 as being substantial duplicates thereof. (4/21/06 *Office Action*, p. 4). The Applicants respectfully submit that claim 16 includes the recitation of "an electromagnetic signal for use in a receiving device." Claim 13 includes no such recitation. Thus, claim 13 is not limited to use in a receiving device as is claim 16. The specification describes the use of the claimed signal in both a receiver and a transmitter. (See *Specification*, p. 5, line 14 – p. 6, line 26). The Examiner cites the transmitter claim (claim 7) from U.S. Patent 6,057,886 for the double patenting rejection, thereby admitting that the scope of the claims include a transmitter and a receiver. (4/21/06 *Office Action*, p. 4). Accordingly, the scope of claims 13 and 16 are different and a claim objection under 37 CFR 1.75 is not appropriate.

Similarly, claim 18 which depends from claim 16 includes the same limitations as claim 16. Claim 22, while reciting a use in the receiving device for the first and second subfields, is not limited to use in only a receiving device as claim 16. Accordingly, the scope of claims 18 and 22 are different and a claim objection under 37 CFR 1.75 is not appropriate.

IV. THE DOUBLE PATENTING REJECTION SHOULD BE WITHDRAWN

The Applicants have submitted a Terminal Disclaimer herewith. Thus, the Applicants respectfully submit that the double patenting rejection should be withdrawn.

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CONCLUSION

It is therefore respectfully submitted that all the pending claims are allowable. All issues raised by the Examiner having been addressed, and an early and favorable action on the merits is earnestly solicited.

Respectfully Submitted,

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